

ABSTRACT

A quantum computing method comprising constructing a dressing transformation V between a physical Hamiltonian H and an ideal Hamiltonian H^{ID} . The physical Hamiltonian H describes a physical quantum computer that comprises a plurality of qubits, including interactions between the plurality of qubits and a continuum. The ideal Hamiltonian H^{ID} describes the universal quantum computer that corresponds to the physical quantum computer. Each qubit in the plurality of qubits is initialized and quantum calculations are performed using the plurality of qubits. Measurement of the plurality of qubits is performed in the dressed state.